

seeds are easily blown in by the wind, and seeds of the occasional pines come from neighboring territory. *Pinus Banksiana*, however, is specially adapted to seed itself in the same place by the persistent closure of the cones, which are borne even by very young (five-year old) trees. Only unusually dry weather, the death of the tree or the heat from a fire will cause the scales to open and allow the seeds to escape. Of seeds 2-4 years old, 95 per cent. germinated; from 4-6 years old, 85 per cent.

Thus, when the second growth is different from the first, it is explained by the persistence of the deciduous trees already present or the introduction of new species in the ordinary course of seed-distribution. When it is not different it is because the species of pine is specially adapted to reëstablishing itself.

[After a few questions, further discussion of the paper was postponed until Monday morning, when Mr. Fernow wished to speak upon it. He was called away suddenly, however, and the discussion was not resumed.]

Discovery of the production of immunity from contagious diseases produced by chemical substances formed during bacterial multiplication: by D. E. SALMON.

The author discussed and answered objections to this theory of immunity, which was presented to the Association in 1886. MM. Duclaux, Roux and Chamberland endeavor to minimize his discovery and claim priority, though their work is more recent. The early experiments were defended and their demonstrative character shown. The author, therefore, continues to claim priority.

[No discussion.]

BRIEFER ARTICLES.

The Botanical Exchange Club.—As there is no regular committee to report on the Exchange Club, and as that club owes an account of itself to its parent, the Botanical Club of the A. A. A. S., the following informal report has been prepared:

At one of the sessions of the club held during the New York meeting of the A. A. A. S., the Rev. Thomas Morong suggested that a botanical exchange club, similiar to those existing in Europe, be formed in this country. The suggestion met with the hearty approval of many members of the club. A committee, consisting of Dr. George Vasey, Dr. Sereno Watson, Dr. N. L. Britton, Rev. Thomas Morong and Prof. Byron D. Halsted, was appointed with power to act for the club, and to report

through the botanical magazines. The committee published, first in the GAZETTE, and in the *Bulletin* for February of this year, a preliminary outline for the organization of the Exchange, based on the rules of the Botanical Exchange Club of the British Isles, and asked for suggestions and improvements for a permanent constitution. A few months later the committee published a note announcing the location of the head-quarters of the Exchange at the National Herbarium, in the Department of Agriculture at Washington, and soon after the final report of the committee came out in the June number of the botanical magazines in the form of the governing rules of the Exchange.

As at present constituted, then, the Botanical Exchange Club consists of a number of persons organized for the purpose of exchanging botanical specimens, and governed by certain rules. The correspondence, finances and general management of the Exchange are in the hands of a director. A considerable number have already become members, and packages of specimens are beginning to come in. With the increased membership and contributions that the Exchange will have by the end of this season's botanizing, the director can soon put the exchanging into full active operation.

Printed copies of the rules will be distributed, and an opportunity will be given to any of the botanists present to become members of the Exchange. The annual fee of two dollars has been set for the purpose of paying the expenses of printing, transportation of specimens and correspondence.

All packages and correspondence should be addressed to Dr. George Vasey, Director of the Botanical Exchange Club, Department of Agriculture, Washington, D. C.

A list of new mosses of N. Am.—The descriptions and drawings of the following mosses, by F. Renauld and J. Cardot, will be issued shortly in the BOTANICAL GAZETTE:

- Microbryum Flörkeanum* Sch. var. *Henrici*.—Kansas (Henry).
- Weisia viridula* Brid. var. *nitida*.—Louisiana (Langlois).
- Dicranum hyperboreum* C. Müll. var. *papillosum*.—Greenland.
- Dicranum sabuletorum* (*D. spurium* var. *condensatum* Lesq. et James, non *D. condensatum* Hedw.). Southern States.
- Dicranum scoparium* Hedw. var. *sulcatum*.—Miquelon (Delamare).
- Dicranum Howellii*.—Oregon (Howell).
- Dicranum Miquelonense*.—Miquelon (Delamare).
- Fissidens incurvus* Schw. var. *brevifolius*.—Louisiana (Langlois).
- Trichodon* (?) *flexifolius*.—Florida (Sawyer).
- Physcomitrium pyriforme* Brid. var. *Langloisii*.—Louisiana (Langlois). New Jersey (Green).
- Bryum Sawyeri*.—Florida (Sawyer).
- Fontinalis Oregonensis* (sub-species of *F. antipyretica*). Oregon (Howell).